CLAIMS

What is claimed is:

1. A weighing scale comprising:

a platform for supporting a load to be weighed by the scale, the platform defining an optimal weighing position for optimally positioning the load thereon;

a plurality of load cells, each of the load cells for sensing a portion of the load's weight and outputting an electrical signal containing data indicative of the sensed portion of the load's weight; and

a processor, using the data contained in the electrical signals outputted by the load cells, for determining a total weight of the load, determining an actual position of the load on the platform, and determining how the actual position of the load on the platform deviates from the optimal position; and

at least one of an indicator for indicating that the load is in the optimal position and a display for displaying the deviation of the actual position of the load from the optimal weighing position, so that the load can be repositioned to the optimal weighing position.

2. The scale according to claim 1, wherein the total weight is determined by summing the sensed weight portions.

3. The scale according to claim 1, wherein the actual position is determined by calculating an x-axis load position offset using the sensed weight portions.

4. The scale according to claim 3, wherein the platform is divided into quadrants comprising a top left quadrant, a top right quadrant, a bottom left quadrant, and a bottom right quadrant, the x-axis offset being calculated by:

summing the sensed weight portions for one of a) an aggregate of the top left and bottom left quadrants and b) an aggregate of the top right and the bottom right quadrants, of the scale; and

dividing the sum by a half weight of the load.

5. The scale according to claim 3, wherein the deviation of the actual position of the load from the optimal position is determined by comparing the x-axis offset to a predetermined threshold value to determine whether a disproportionate quantity of the load's weight is on one of a left side and a right side of the scale.

6. The scale according to claim 1, wherein the actual position is determined by calculating x-axis and y-axis load position offsets using the sensed weight portions.

7. The scale according to claim 6, wherein the platform is divided into quadrants comprising a top left quadrant, a top right quadrant, a bottom left quadrant, and a bottom right quadrant, the x-axis offset being calculated by:

summing the sensed weight portions for one of a) an aggregate of the top left and bottom left quadrants and b) an aggregate of the top right and the bottom right quadrants, of the scale; and

dividing the sum by a half weight of the load.

8. The scale according to claim 7, wherein the y-axis offset is calculated by:

summing the sensed weight portions for one of a) an aggregate of the top left and top right quadrants and b) an aggregate of the bottom left and the bottom right quadrants, of the scale; and

dividing the sum by a half weight of the load.

9. The scale according to claim 6, wherein the platform is divided into quadrants comprising a top left quadrant, a top right quadrant, a bottom left quadrant, and a bottom right quadrant, the y-axis offset being calculated by:

summing the sensed weight portions for one of a) an aggregate of the top left and top right quadrants and b) an aggregate of the bottom left and the bottom right quadrants, of the scale; and

dividing the sum by a half weight of the load.

10. The scale according to claim 6, wherein the deviation of the actual position of the load from the optimal position is determined by comparing the x-axis and y-axis offsets to a predetermined threshold value to determine whether a disproportionate quantity of the load's weight is on one of a left side and right side of the scale and on a top and a bottom of the scale.

11. The scale according to claim 1, wherein each of the load cells is integrated into a support, the supports for supporting the platform on a surface.

12. The scale according to claim 1, wherein the indicator comprises at least one of a visual and a sound indicator.

13. The scale according to claim 12, wherein the scale includes both the indicator and the display.

14. The scale according to claim 13, wherein the indicator is part of the display.

15. A method for accurately positioning a load on a platform of a weighing scale, the method comprising the steps of:

providing a plurality load cells, each of the load cells for sensing a portion of the load's weight and outputting an electrical signal containing data indicative of the sensed portion of the load's weight;

determining an actual position of the load on the platform, and how the actual position of the load on the platform deviates from an optimal weighing position using the data contained in the electrical signal outputted by the load cells; and

indicating that the load is in the optimal position.

16. The method according to claim 15, further comprising the step of determining a total weight of the load.

17. The method according to claim 16, wherein the total weight determining step includes summing the sensed weight portions.

18. The method according to claim 15, wherein the actual position determining step includes calculating.an x-axis load position offset using the sensed weight portions.

19. The method according to claim 18, further comprising the step of dividing the platform into quadrants comprising a top left quadrant, a top right quadrant, a bottom left quadrant, and a bottom right quadrant, wherein the x-axis offset is calculated by:

summing the sensed weight portions for one of a) an aggregate of the top left and bottom left quadrants and b) an aggregate of the top right and the bottom right quadrants, of the scale; and

dividing the sum by a half weight of the load.

20. The method according to claim 18, wherein the actual position determining step includes comparing the x-axis offset to a predetermined threshold value to determine whether a disproportionate quantity of the load's weight is on one of a left side and a right side of the scale.

21. The method according to claim 15, wherein the actual position determining step includes calculating x-axis and y-axis load position offsets using the sensed weight portions.

22. The method according to claim 21, further comprising the step of dividing the platform into quadrants comprising a top left quadrant, a top right quadrant, a bottom left quadrant, and a bottom right quadrant, wherein the x-axis offset is calculated by:

summing the sensed weight portions for one of a) an aggregate of the top left and bottom left quadrants and b) an aggregate of the top right and the bottom right quadrants, of the scale; and

dividing the sum by a half weight of the load.

23. The method according to claim 22, wherein the y-axis offset is calculated by:

summing the sensed weight portions for one of a) an aggregate of the top left and top right quadrants and b) an aggregate of the bottom left and the bottom right quadrants, of the scale; and

dividing the sum by a half weight of the load.

24. The method according to claim 21, further comprising the step of dividing the platform into quadrants comprising a top left quadrant, a top right quadrant, a bottom left quadrant, and a bottom right quadrant, wherein the y-axis offset is calculated by:

summing the sensed weight portions for one of a) an aggregate of the top left and top right quadrants and b) an aggregate of the bottom left and the bottom right quadrants, of the scale; and

dividing the sum by a half weight of the load.

25. The method according to claim 21, wherein the actual position determining step includes comparing the x-axis and y-axis offsets to a predetermined threshold value to determine whether a disproportionate quantity of the load's weight is on one of a left side and right side of the scale and on a top and a bottom of the scale.

26. The method according to claim 15, further comprising the steps of:

displaying the deviation of the actual position of the load from the optimal weighing position; and

repositioning the load to the optimal weighing position.